

MULTIMEDIA



UNIVERSITY

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 3, 2017/2018

**TCC 3141 – CLOUD COMPUTING**  
(All Sections / Groups)

06 JUNE 2018  
9.00 a.m. – 11.00 a.m.  
(2 Hours)

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### INSTRUCTIONS TO STUDENTS

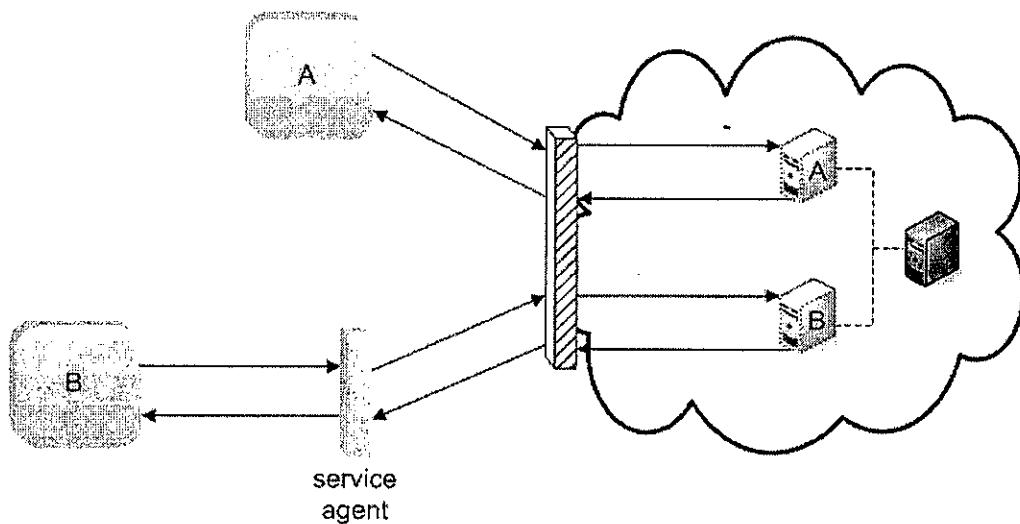
1. This Question paper consists of 4 printed pages including cover page with 5 questions only.
2. Attempt **ALL** questions. All questions carry equal marks and the distribution of marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

**Question 1 [10 Marks]**

- a) Cloud computing gives many benefits to the organizations. Describe **THREE (3)** benefits of cloud computing. [3 marks]
- b) Differentiate between Cloud Consumer and Cloud Service Consumer. [2 marks]
- c) Explain **FIVE (5)** characteristics of a cloud environment to enable the remote provisioning of scalable and measured IT resources in an effective manner. [5 marks]

**Question 2 [10 Marks]**

- a) Differentiate between On-Premise and Cloud-based IT resources. [3 marks]
- b) Explain the difference between OS and hardware-based virtualization. [2 marks]
- c) Describe multitenancy. Explain the relevance of multitenant technology in cloud computing. [2 marks]
- d) The diagram below illustrates interaction between two cloud service consumers (A and B) and two virtual servers (A and B) hosted on a cloud.



Based on the limited information provided in the depicted scenarios, list **THREE (3)** types of attacks that could potentially be carried out if any of the programs outside of the cloud were malicious. [3 marks]

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**Question 3 [10 Marks]**

- a) Explain **THREE (3)** advantages of a virtual server over a physical server. [3 marks]
- b) Describe Cloud Usage Monitor in cloud computing environment. Explain **THREE (3)** primary implementation formats for cloud usage monitors. [4 marks]
- c) Explain **THREE (3)** common Load Balancer functions in a cloud environment. [3 marks]

**Question 4 [10 Marks]**

- (a) There are several tasks that can be performed by cloud consumers via a remote administration control. However, they depend on **THREE (3)** conditions. Explain the conditions. [3 marks]
- (b) Compare between the hierarchical resource pools and nested resource pools. [4 marks]
- (c) Aminah in the IT department at Bersatu Manufacturing Company plant is planning for her company to subscribe to some cloud services with advanced architectures. However, Aminah is not certain which advanced cloud architectures fit her company's requirements.

Explain to Aminah what can the following **THREE (3)** advanced cloud architectures establish:

- (i) Hypervisor clustering.
- (ii) Load balanced virtual server instances.
- (iii) Non-disruptive server relocation.

[3 marks]

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**Continued..**

**Question 5 [10 Marks]**

- (a) Berry's Chocolates of Bear Hill makes an assortment of chocolate candy and candy novelties. The company has six in-city stores: five stores in major metropolitan airports, and a small online-order branch. Berry's decides to subscribe to a cloud service system that can connect its entire retail outlets.

You, as Database Manager in Berry's, propose subscription to cloud services that implement Dynamic Data Normalization architecture in order to prevent saving redundant copies of data.

Explain **FOUR (4)** issues related to redundant data.

[4 marks]

- (b) Borhan is a decision maker for Malacca's Authentic Cencaluk Company. He needs to decide which cloud environment to subscribe for his company's expansion plan. Since there are **THREE (3)** cloud delivery models, suggest to Borhan a cloud delivery model that provides less administrative control but still offers significant range of management features.

Describe **FOUR (4)** set of management features that may be useful for Borhan.

[4.5 marks]

- (c) Categorize **THREE (3)** types of measurements for cloud service usage metrics based on each of the following cost charges:

- (i) RM 1.50 per 1000 transactions
- (ii) RM 100.00 per month
- (iii) RM 50.00 per additional user per month.

[1.5 marks]

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